COMMUNITIES' PERCEPTION ON THE IMPACT OF DECENTRALISED FOREST MANAGEMENT ON ACCESS TO FOREST RESOURCES AND OCCURRENCE OF ILLEGAL TREE HARVESTING IN NORTH EASTERN AND CENTRAL TANZANIA

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ABSTRACT

The aim of this study was to assess community perceptions on the impact of decentralised forest management (DFM) on access to forest resources and occurrence of illegal tree harvesting in north eastern and central Tanzania. Seven villages were selected from montane and semi-arid contrasting conditions. In the montane site, three villages: Goka, Sagara and Mavumo adjacent to Shagayu, Sagara and Shume-Magamba forests under Joint Forest Management (JFM), Community Based Forest Management (CBFM) and Centralised Management (CM) respectively were studied. Four villages namely Kwabaya, Kwamatuku, Pohama and Kweditilibe adjacent to Handeni Hill (JFM), Kwakirunga (CBFM), Mgori (CBFM) and Kiva Hill (CM) forests respectively were studied in semi-arid site. Generally, access to forest resources before DFM was rated difficult in montane study villages. While Sagara and Mavumo perceived moderate access after decentralisation, Goka village participating in JFM perceived access to remain difficult. In semi-arid sites, access was perceived to be moderate before decentralisation in semi-arid villages except Pohama which rated it difficult. After decentralisation, Kwabaya and Kwamatuku villages perceived difficult access while Pohama and Kweditilibe rated it moderate. Illegal forest activities before decentralisation in the montane site were rated high. Only Goka perceived high illegal activities after decentralisation while others rated moderate. Kwabaya and Kwamatuku perceived moderate occurrence of illegal activities before and high after decentralisation. Pohama perceived high occurrence of illegal activities before and moderate after decentralisation. In both sites, it was difficult to link access and occurrence of illegal activities with management regimes due to lack of operational management plans and approved bylaws.

Keywords: decentralised forest management, access, tree harvesting, montane, semi-arid, north eastern and central Tanzania.

INTRODUCTION

Forests and woodlands in Tanzania cover about 48 million ha which is about 55% of the total country land area (Mgoo 2013). Tanzania is among highly forested countries where substantial forest loss has been recorded and estimated at 1.0% annually (FAO 2010, Mgoo 2013). In

efforts to curb deforestation, Tanzania introduced decentralised forest management (DFM) through Participatory Forest Management (PFM) programme after the Forest Policy of 1998 (URT 1998, Blomley *et al*. 2008). The general trend is towards more sustainable, DFM, including enhanced access and management rights for local people and communities and strengthening private sector investment in forestry (URT 1998, FAO 2007). Decentralisation of forest management is the transfer of authority and management functions from Central to lower levels of authorities refers as Village Council (Ribot 2002, Tacconi 2007).

In Tanzania, DFM follows two approaches: Joint Forest Management (JFM) and Community Based Forest Management (CBFM). JFM is a collaborative management approach which divides forest management responsibilities and benefits between the forest owner and forest adjacent communities. JFM takes place on land reserved for forest management such as National Forest Reserves (FRs) and Local Authority FRs and is formalised by signing a Joint Management Agreement (JMA) between Village Representatives and Government (either District Council or Ministry of Natural Resources and Tourism). This form of DFM can also take place in private forests where owners sign management and use agreements with adjacent communities. CBFM takes place in forests on surveyed village land as per Village Land Act No. 5 of 1999. Ownership and management of declared and registered Village Land Forest Reserve is vested on the Village Council (Blomley *et al*. 2008, URT 2007). This legal transfer of ownership, use rights and management responsibilities to the Village Governments enables villagers to: harvest timber and other forest products, collect and retain forest revenues, and arrest and fine offenders. The villagers are also exempted from regulations controlling harvesting of reserved tree species and are not obliged to share royalties with Central or Local Government. CBFM is envisaged to progressively bring the unprotected 14.6 million ha of woodlands and forests on general lands in Tanzania under village management and protection (Blomley *et al*. 2008). Currently, more than 45% of forests in Tanzania are under village ownership.

DFM goals are three fold: to improve forest condition, community livelihoods and forest governance. DFM as an institutional arrangement defines who has access, in what form and to what degree, thus defining the "rules of the game" (Vatn, 2005). However, Mbwambo (2012) reported that villages participating in JFM and CBFM in the north eastern and central Tanzania lacked officially approved management plans and bylaws. This study hinged on the decentralisation theory which observes that "democratic decentralisation leads to sustainable forest management and improved livelihoods" (Tacconi 2007). This theory firstly assumes that democratic decentralisation facilitates institutionalising and scaling-up of community based natural resource management. Secondly, it is axiomatic that as people get benefits they tend to conserve forests; and thirdly, the success of this decentralisation can be measured by improved forest resource condition (Tacconi 2007) in terms of controlled access and reduced illegal tree harvesting. According to Singh *et al.* (2011), higher level of local monitoring and rule enforcement can lead to improved forest condition and reduction in degradation. Furthermore, for the local community to benefit from forest resources, access to forests is of paramount importance (Larson *et al*. 2007) and in that regard DFM is hypothesised to lead to the transfer of forest use and access rights to participating communities (Ribot 2002, Tacconi 2007). The aim of this study was to assess community perceptions on the impact of

DFM on access to forest resources and occurrence of illegal tree harvesting in the north eastern and central Tanzania.

METHODOLOGY

Study sites

This study was conducted in Goka, Sagara and Mavumo villages adjacent to Shagayu forest (38°18' E, 4°30' S) under JFM, Sagara (38°30' E, 4°50' S) under CBFM and Shume-Magamba (38°15' E, 4°40' S) under CM respectively in the montane forests. Four villages namely Kwabaya, Kwamatuku, Pohama and Kweditilibe adjacent to Handeni Hill (38°30' E, 5°27' S) (JFM), Kwakirunga (38°23' E, 5°14' S) (CBFM), Mgori (35°05' E, 4°45' S) (CBFM) and Kiva Hill (38°06' E, 5°28' S) (CM) were studied in semi-arid forests. Management and tenure regime changes for the Shagayu, Sagara, Handeni, Kwakirunga and Mgori FRs took place in 2002, 1999, 1999, 2005 and 1996, respectively. Management regimes and forestland tenure for Shume-Magamba and Kiva forest reserves have remained unchanged and were included as control in this study. The villages were purposively selected based on their proximity to the forests as well as accessibility. The studied montane FRs are located at altitude between 1475-1800 m above sea level and receive around 1000 mm annual rainfall, while the semi-arid forests are located between 700-1600 m above sea level and receive around 800 mm annual rainfall.. Number of adjacent villages, number of inhabitants and number of inhabitants per ha of forest among the reserves are varying considerably (Table 1).

Table 1: Area, number of villages, population and population density in the study forests

Attributes	Forest name						
	Shagayu	Shume	Sagara	Handeni	Kiva	K/runga	Mgori
Forest area (ha)	7830	9284	256	544	655	227	39 361
Adjacent villages	13	17	1	3	3	2	5
Population	27 400	59 000	1850	8800	7970	4067	10 436
People/ha of forest	3.5	7.4	7.2	16.2	12.2	17.9	0.3

(Source: Mbwambo 2012)

Selected forests share historical and political events shaping their management and the current resource conditions. Anecdotal evidence shows that use of these forests during pre-colonial epoch was limited to hunting and gathering, and that communities identified forests based on their function as shelter rather than on their economic value (Conte 1999). During colonial period, sawmills were introduced in Shagayu and Shume-Magamba to satisfy colonial timber needs. Pit sawing was also among main timber harvesting techniques. In the montane forests, harvested preferred timber tree species included *Ocotea usambarensis* (Engl.), *Podocarpus ensiculus* (Melville), *Podocarpus falcatus* (Mirb), *Entandrophragma excelsum* (Dawe & Sprague) Sprague and *Juniperus procera* (Hochst. ex A. Rich.) (Conte 1999). Tree species utilised for non-timber forest products included *Catha edulis* (Forsk), *Warbugia ugandensis* (Sprague), and *Prunus africana* (Hook. f.) Kalmkm (Msuya 1998). The forests in the semi-arid sites went through similar historical background as the forests in the montane sites. During colonial period and thereafter, Handeni, Kwakirunga and Kiva forests were subjected to intensive harvesting to satisfy sawmills. Before gazettement, Mgori was on general land where agriculture and settlements led to over harvesting until early 1990s.

Preferred and harvested timber tree species in semi-arid study forests included *Pterocarpus angolensis (DC), Pterocarpus tinctorius* (Welw. "Megalocarpus" race F. H.), *Afzelia quanzensis* (Welw.), *Brachystegia speciformis* (Benth.) and *Brachylaena huillensis* (O. Hoffm) (Malimbwi *et al*. 2005).

Data collection

Community perceptions data on access to tree resources and occurrence of illegal forest tree harvesting activities were collected using a semi-structured questionnaire. Data were collected on household characteristics and on respondents' perceptions on performance of decentralised forest management (Webb 2004). Out of 420 interviewed respondents, 69.9% were males and 30.1% were females. The majority of respondents had age above 30 years and over 70% were married with the majority having family sizes of 6-10 people (including dependants). Over 70% of respondents had attained primary education and a smaller proportion (30%) had adult, secondary or no education at all. Major socio-economic occupation of respondents is peasant agriculture (over 70% on average) followed by a combination of peasant agriculture and livestock keeping, government employment, petty business and other sources in that order of decreasing importance. Demographic and socio-economic description of respondents is presented in Table 2.

Table 2: Demographic and socio-economic description of respondents in study villages

Variable	Village response (%)						
	Montane villages			Semi-arid villages			
	Goka (n=60)	Sagara (n=60)	Mavumo (n=58)	Kwabaya (n=60)	K/matuku (n=61)	Pohama (n=60)	K/tilibe (n=61)
Sex							
Male	53.3	75.0	56.9	63.3	78.7	76.7	85.2
Female	46.7	25.0	43.1	36.7	21.3	23.3	14.8
Age							
18-30	6.7	8.3	27.6	0	1.6	0	9.8
30-50	43.3	50.0	34.5	36.7	44.3	38.3	42.6
>50	50.0	41.7	37.9	63.3	54.1	61.7	47.6
Marital status							
Married	91.7	86.7	77.6	81.7	83.6	78.3	85.2
Single	1.7	0	5.2	3.3	4.9	5.0	4.9
Widowed	6.6	13.3	17.2	15.0	11.5	16.7	9.8
Family size							
0-5	28.3	46.7	41.4	31.7	37.7	21.7	37.7
6-10	58.3	46.6	37.9	50.0	54.1	58.3	50.8
11-15	10.0	6.7	15.5	18.3	8.2	20.0	11.5
>15	3.4	0	5.2	0	0	0	0
Education							
Primary	95.0	61.7	77.6	61.7	72.1	75.0	70.5
Adult	3.4	21.7	15.5	15.0	6.6	11.7	6.6
Secondary	1.7	16.7	6.9	11.7	16.4	8.3	19.7
University	0	0	0	0	0	0	0
No education	0	0	0	11.7	4.9	5.0	3.3
Occupation							
Peasant	75.0	76.7	72.4	75.0	78.7	55.0	75.4
Livestock keeper	3.3	0	3.4	0	0	6.7	0
Peasant/Livestock	15.0	3.3	8.6	11.7	8.2	33.3	13.1
Govt employee	1.7	10.0	5.2	5.0	8.2	3.3	9.8
Business	1.7	3.3	5.2	6.7	3.3	1.7	1.6
Others	3.3	6.7	5.2	1.7	1.6	0	0

(Source: Mbwambo 2012)

Data analysis

The Statistical Package for Social Sciences (SPSS) 16.0 was used to analyse community perceptions data. Questionnaire responses were assigned numerical codes to facilitate data entry and analysis. Inferential statistical analysis was employed to compare means of responses on respondents' perceptions on the impact of DFM on access to forest resources and illegal tree harvesting activities. To do this, Analysis of Variance (ANOVA) was used to compare household mean scores for questions with responses on a five-point Likert Scale under the studied forest management regimes. The study assumed that household responses were continuous and each respondent took different stand points. F-test was therefore performed to test for significant differences.

RESULTS

Perception on impact of decentralised forest management on access to forests

Access to forest resources in this study was measured on a five-point Likert scale (1=very difficult, 2=difficult, 3=moderate, 4=easy, 5=very easy) and the results are shown in Tables 3 and 4.

Table 3: Perceptions on access to forest resources under JFM, CBFM and CM before and after decentralisation of management in montane study villages

		Before decentralisation				After decentralisation			
Village	Regime	Mean	n	F-Test	Significance	Mean	n	F-Test	Significance.
Goka	JFM	2.2	60			2.97	60		
Sagara	CBFM	2.8	60			3.20	60		
Mavumo	CM	2.9	58			3.12	58		
All		2.6	178	9.56	0.000*	3.09	178	0.61	0.54

*Significant at 5% level

Table 4: Perceptions on access to forest resources under JFM, CBFM and CM before and after decentralisation of management in semi-arid study villages

			Before decentralisation				After decentralisation			
Village	District	Regime	n	Mean	F-Test	Sign.	Mean	n	F-Test	Sign.
Kwabaya	Handeni	JFM	60	3.36			2.78	60		
Kwamatuku	Handeni	CBFM	61	3.33			2.80	61		
Kweditilibe	Handeni	CM	61	3.36			3.58	60		
Pohama	Singida	CBFM	60	2.55			3.08	61		
All			242	3.22	13.31	0.000*	3.06	242	8.32	0.000*

*Sign. = Significant at 5% level

Overall, perceptions on access to forest resources before and after management decentralisation policy in this study were rated difficult to moderate in both montane and semi-arid villages. All studied forests under JFM were protected catchment forests with uses limited to dead wood collection for firewood, ecotourism and collection of non-timber forest products such as fruits and medicines. On the other hand, theoretically, under CBFM access is sanctioned by the Village Natural Resources Committees, thus making it relatively easy for villagers to get permits as compared to forests under JFM. Unclear boundaries were found to create resource ownership conflicts in this study. It was evident in Kwakirunga forest adjacent to Kwamatuku village that *Msuhwa* villagers in Korogwe district were reported to claim that this forest belonged to them. Thus, a conflict is boiling between Kwamatuku and Msuhwa villages over the ownership of Kwakirunga forest (Mr Mpako, Ward Forester, Pers. Comm.).

The study forests under JFM are owned by the Government, making participating villages unable to exclude distant villagers from appropriating forest products. Furthermore, forests under CM regime, also under sole ownership of the Government have resulted in open access, thus people easily enter these forests without restrictions. In this case, the impact is positive on the community side for their livelihoods and negative on the forest condition due to degradation. The differences on access perceptions after decentralisation of forest management were significant in semi-arid (Table 4) than in montane study villages (Table 3). Respondents adjacent to forests under JFM in montane and semi-arid areas perceived access to be difficult after introduction of JFM. Access was perceived to be moderate under CBFM and CM plausibly due to the fact that villagers can easily negotiate with Village Forest Committees to gain access and that there is no control under CM. Under JFM, participating villages get user and access rights to the forests through JMAs and approved bylaws. Unfortunately, no single JMA or bylaw has been signed by the then Forestry and Beekeeping Division (currently Tanzania Forest Service) in all studied villages.. Although under CBFM the villagers are the owners and managers of the forests, use and management principles are governed by the National Forest Policy of 1998 and Forest Act cap 323 [R.E. 2002] requiring them to have approved Forest Management Plans. Approval of those plans has been claimed to be very bureaucratic. For example, during focus group discussions in Pohama village adjacent to Mgori forest, the villagers complained that the district authorities were reluctant to allow them to start harvesting products from the production zones of their forest as per the un-signed management plan. This is because for them to start harvesting they must get technical backstopping from the District Forest Officer with respect to setting annual allowable cut. For the villagers adjacent to forests under CM, they must get a permit from the Forest Officers to enter the forests and must obtain a licence for harvesting timber products.

Community perceptions on the occurrence of illegal tree harvesting

Weak forest governance under the three studied regimes has resulted in increasing forest degradation. This is further fuelled by community non-compliance to laws and regulations governing access and use of forests. Compliance to norms, rules and bylaws built through social capital construct is expected to lead to reduced illegal forestry activities. To ascertain this, respondents were asked to rank the occurrence of illegal forest activities before and after decentralisation of forest management in their villages in a five-point Likert scale (1=very high, 2=high, 3=moderate, 4=reduced, 5=highly reduced) and the results are as shown in Tables 5 and 6.

Table 5: Community perceptions on occurrence of illegal forest activities before and after decentralisation of management in montane study villages

		Before decentralisation				After decentralisation			
Village	Regime	Mean	n	F-Test	Significance	Mean	n	F-Test	Significance
Goka	JFM	2.2	60			2.7	60		
Sagara	CBFM	2.7	60			3.4	60		
Mavumo	CM	2.5	58			3.6	58		
Total		2.4	178	3.84	0.023*	3.2	178	12.7	0.000*

*Significant at 5% level

Overall, communities in the montane study villages perceived illegal forest activities before decentralisation to have been high and their mean responses were significantly different (Table 5). Occurrence of illegal forest activities after decentralisation of forest management in the montane study villages was perceived to be moderate and the mean response differences were highly significant ($p<0.05$). Of the montane study villages, only Goka village implementing JFM perceived occurrence of illegal forest activities to be high after decentralisation of forest management. The other villages, Sagara and Mavumo under CBFM and CM respectively, perceived illegal forest activities occurrence to be moderate after decentralisation of forest management.

Overall, communities in Handeni and Singida study villages perceived occurrence of illegal forest activities as high before and moderate after decentralisation of forest management and the mean responses were significantly different among villages (Table 6).

Table 6: Community perceptions on occurrence of illegal forest activities before and after decentralisation of management in semi-arid study villages

			Before decentralisation				After decentralisation			
Village	District	Regime	Mean	n	F-Test	Sign	Mean	n	F-Test	Sign
Kwabaya	Handeni	JFM	3.4	60			2.7	60		
Kwamatuku	Handeni	CBFM	3.2	61			2.9	61		
Pohama	Singida	CBFM	2.0	60			3.5	60		
Kweditilibe	Handeni	CM	2.6	61			2.9	61		
Total			2.7	242	24.6	0.00*	3.0	242	8.67	0.00*

*Sign. = Significant at 5% level

Kwabaya and Kwamatuku villages implementing JFM and CBFM, respectively, perceived occurrence of illegal forest activities to be moderate before decentralisation of forest management. Results showed further that Kwabaya (JFM), Kwamatuku (CBFM) and Kweditilibe (CM) perceived illegal forest activities to be high after decentralised management. On the other hand, Pohama village (CBFM) respondents perceived occurrence of illegal forest activities to be high before and moderate after decentralised management. This might be attributed to the long history of CBFM in Mgori forest.

DISCUSSION

Decentralisation of forest management is hypothesised to lead to the transfer of forest use and access rights to participating communities. Furthermore, for the local community to benefit from forest resources, access to forests is of paramount importance (Larson *et al*. 2007). People in the study forests both in montane and semi-arid sites use forests as sources of firewood, thatching grass, building poles, timber, charcoal, medicinal plants, indigenous fruits, and for beekeeping, hunting and grazing. However, according to Larson *et al*. (2007), access to natural capital (in this case forest) can be made more vulnerable by decentralisation if this does not come with policies addressing land rights. On the other hand, access to forest resources may be difficult under corrupt systems (Brockington 2007).

Under the assumption that forests are public goods, overlapping claims over forests makes access control and exclusion of non-participating villages difficult (Larson *et al*. 2007). Shahbaz (2009) found that it was difficult for both villages under JFM and without JFM to access forest resources in Northwest Pakistan. Village Forest Committees, though lacking legal operational bylaws in all study forests,

control access of other village members to the forest on behalf of the state (Vyamana, 2009; URT 2007). This follows the argument by Larson *et al*. (2007) that devolving powers to local authorities brings Government controls closer to communities and is hypothesised to make law enforcement easier. It has also been attested that village level JFM committees empowered to make local rules, undertake local monitoring and local law enforcement are likely to succeed in improving forest condition (Singh *et al.* 2011).

These findings are in agreement with Vyamana (2009) who argued that theoretically access to forest resources under decentralised management is vested in the Village Councils through the Village Forest Committees. Practically though, this study found that these committees were unable to execute the control mandate due to lack of legal instruments, skills and financial resources. In fact under state ownership, community groups, poor peasants, and some indigenous peoples have to negotiate access to forest resources with the State (Larson *et al*. 2007). Access and use of these forests is hypothesised to be regulated by the applied management regimes under decentralisation. As observed in this study, all villages adjacent to the studied forests lacked operational management plans. Singh *et al.* (2011) argued that higher levels of local monitoring and enforcement of locally made rules can lead to improved forest regeneration and restoration. Furthermore, discussions with forest committees revealed that they had no resources to enable them perform patrols. There are no budgets from the districts to support village forest management activities. The only source of revenue is fines instituted to offenders which they use to pay people conducting patrols or those who arrest offenders. This contradicts the decentralisation by devolution rhetoric where the Central Government must transfer authority over forest resource management and benefits to local actors (Campbell *et al.* 2003, Tacconi 2007). Worth noting also is the fact that increased revenue from fines charged on illegal forest activities obviously contradicts conservation.

It has been argued under the decentralisation rhetoric that devolving powers to local authorities brings Government controls closer to communities and is hypothesised to make law enforcement easier (Larson *et al*. 2007). Evidence in favour of the impact of management regimes like JFM on livelihoods improvement and betterment of forests has been contested and that outcomes are mixed (Singh *et al.* 2011). Mbwambo *et al*. (2012a) reported that findings on the impact of DFM on forest condition improvement in selected forests in montane and semi-arid forests of Tanzania were somewhat ambiguous. JFM and CBFM have been found to have positive and negative impacts on forest condition in Tanzania (Mbwambo *et al*. 2012a). This is evident in this study from Goka villagers implementing JFM in Shagayu forest who perceived illegal forest activities occurrence to be high after decentralisation of forest management. These perceptions are supported by other studies. For example Mbwambo *et al.* (2012b) observed increasing trend in illegal tree harvesting and decrease in closed forest cover in Shume Magamba (CM) and Shagayu (JFM). Recorded community perceptions on high occurrence of illegal tree harvesting after decentralisation in the semi-arid study villages are supported by higher tree harvests recorded in Handeni Hill (JFM) and Kwakirunga (CBFM) by Mbwambo *et al.* (2012b). The perceived moderate occurrence of illegal activities after decentralisation of management in Mgori forest is an indication that the process to introduce CBFM has created awareness and sense of ownership among the villagers (Wily, 1997; Kajembe *et al*.

2003; Shahbaz, 2009) and that the community has built a common knowledge for collective action (Ishihara and Pascual 2009). Indeed, this is evident from positive forest stock changes recorded by Mbwambo *et al.* (2012a) in Mgori forest. To show that JFM can also bring positive changes, Shahbaz (2009) found reduction in illegal tree cutting by outsiders and villagers in forests under JFM than non JFM in Northwest Pakistan. This is in line findings of Mbwambo *et al.* (2012a) who recorded positive changes in number of stems, basal area and volume per hectare in Handeni Hill under JFM. In fact, despite the recorded tree harvests by Mbwambo *et al.* (2012a), another study (Mbwambo *et al.* 2012b) recorded increase in closed forest cover in Handeni Hill forest. This shows the importance of triangulating methods in order to cross check the accuracy of findings.

CONCLUSION

Community perceptions on access to forest resources before and after management decentralisation policy were overall rated difficult to moderate in both montane and semi-arid forests. This shows that the committees at village level, though they lacked resources, they controlled access to the forests. This study observed that access to forest resources although theoretically known to be regulated by decentralised management, there were no signed bylaws and management plans at village levels. In other words, there were no tools for controlling access to the forests and regulate uses. The committees operated without budgets from the District Councils and this may create avenue for corruption as decisions are centralised solely to the committees.

Occurrence of illegal forest activities was rated high before and moderate after decentralisation of forest management in the montane and semi-arid study villages. At individual village levels, perceptions were different. All studied forests under JFM were protected catchment forests with uses limited to dead wood collection for firewood, ecotourism and collection of non-timber forest products such as fruits and medicines but timber harvesting was going on uncontrolled. Although CBFM could make access to forests much easier compared to forests under JFM, bureaucratic process of signing management plans has made access under this regime equally difficult and all recorded forest activities were illegal. Lack of clear land tenure arrangements makes these forests vulnerable to multiple claims and degradation.

Given the different stages at which DFM has reached in different forests and varied efforts, this study has recorded that JFM and CBFM can perform differently. Thus the two regimes can have positive and negative impacts on facilitating or inhibiting access to forests. Worth noting is the fact that JFM and CBFM can equally lead to increased illegal forest activities under weak institutional arrangements.

POLICY RECOMMENDATIONS

This study recommends that unless forest governance and livelihoods at village level are improved, forests in Tanzania will continue to be degraded and this situation will have negative effect on current initiatives under Reduced Emission from forest Degradation and Deforestation (REDD) National Strategy. This requires political will and commitment by all actors. Furthermore, REDD initiatives must strengthen DFM for improved forest condition, forest governance and livelihoods of forest adjacent people if carbon stocks are to be enhanced. Developed JFM and CBFM guidelines need to be revisited to address the limited tangible benefits from protected forests. There is a need to develop separate guidelines for JFM and CBFM in protected and production forests as these

will have different institutional arrangements.

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